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CROP PROTECTED IS CROP PRODUCED

A large proportion of what we produce is lost to the elements of pests and diseases. As much as 40 per cent of the world's agricultural crops are lost to pests each year. Notwithstanding the effect these have on the financial prospects of the farmers, their implications on biodiversity are huge. Invasive pests and diseases have in the recent past wreaked havoc in Indian fields.

Pest and disease dynamics are constantly changing, and it becomes incumbent upon the industry to cater to the differing demands. The sector therefore is on the cusp of constantly changing technologies to suit the varied demands. R&D becomes a priority, but the high cost of R&D deters many manufacturers from investing in new solutions.

Farmers at large remain unaware of the new products or they lack the knowledge regarding a product at hand. This is a precarious situation as the efficacy or the usefulness of the product is closely linked to the knowledge of the user. Lack of education and awareness among farmers is counted as one of the main reasons behind failing efficacies of the crop protection product or their misuse. The threat of spurious products is real and their use by the gullible farmers has questioned many times the efficacy of plant protection products.

Crop protection chemicals are still the most extensively adopted management measure once the pest problem is reported. The new molecules that are being developed negates may of the purported ill effects of the conventional molecules. It is indeed a ray of hope. Greener and safer chemicals can play a significant role in crop protection.

Plant disease forecasting is an underexploited area in India. Pest and diseases are dependent on weather variables to a great extent and many models have been developed to predict the onset of diseases and pests. However, those models are seldom used in conventional agriculture. But in years to come, model based predictions would find favour in agriculture. Biopesticides and biocontrol agents present another dimension of crop protection. This assumes significance considering the resolve of many states in India to go completely organic. Nanotechnology is a fascinating and rapidly advancing science and has the potential to revolutionize many disciplines of science, technology, medicine and agriculture.

The threats of the future are immense and unknown. The crop protection industry must be dynamic enough to combat these threats in the most effective and productive way. The key to India's food security lies with crop protection.